

**Notice of Allowability**

Application No.

09/621,388

Examiner

Phuong Phu

Applicant(s)

YELLIN ET AL.

Art Unit

2631

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 11/4/04.
2. ☒ The allowed claim(s) is/are 3,4,7-25 and 31-37.
3. ☒ The drawings filed on 21 July 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### REASONS FOR ALLOWANCE

1. This Office Action is responsive to the Amendment filed on 11/4/04.
2. Claims 3, 4, 7-25 and 31-37 are allowed.
3. The following is an examiner's statement of reasons for allowance:

References (5732333), (20020015450), (6208698), (5351016) and (5404378) are additionally cited because they are pertinent to the claimed invention.

-Regarding to independent claim 3, none of prior art of record teaches or suggests a method comprising steps of estimating a first value of a parameter for canceling an in-phase/quadrature phase mismatch of an in-phase/quadrature phase modulator; and estimating a second value of the parameter for canceling an in-phase/quadrature phase mismatch of an in-phase/quadrature phase demodulator.

-Regarding to independent claim 17, none of prior art of record teaches or suggests a method comprising steps of estimating a complex-valued base band equivalent gain of an amplification unit of a communication device; approximating values of a matrix representing an in-phase and quadrature phase mismatch effect of the communication device based on an in-phase and quadrature phase mismatch cancellation parameter; and selecting a value of the in-phase/quadrature phase mismatch cancellation parameter to minimize a cost function which depends on the estimated complex-valued base band equivalent gain and the approximated matrix.

-Regarding to independent claim 20, none of prior art of record teaches or suggests a system comprising a trainer to provide an in-phase/quadrature phase mismatch cancellation parameter responsive to values received from both an input and an output of an in-

Art Unit: 2631

phase/quadrature phase modulator and from an input and an output of an in-phase/quadrature phase demodulator to an in-phase/quadrature phase cancellation unit.

-Regarding to independent claim 31, Masenten (6535560), previously cited, fails to teach the limitation “a mismatch trainer to adjust a value of one or more of an in-phase mismatch parameter and quadrature mismatch parameter responsive to values received from both an input and an output of an in-phase/quadrature phase modulator and from an input and an output of an in-phase/quadrature phase demodulator”. It would not have been obvious for one skilled in the art to implement Masenten, in view of other prior art of record, in order to make such an implementation leading the claimed invention.

-Regarding to independent claim 35, , none of prior art of record teaches or suggests a method comprising steps of estimating at least one parameter for cancellation of IQ mismatch effects of a transmitter responsive to values transmitted by the transmitter during a first period; and adjusting the at least one parameter estimated responsive to the values transmitted during a first period responsive to values transmitted during a second period, which second period is separated from the first period by a rest period in which the transmitted values are not used to adjust parameters for IQ mismatch cancellation.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Art Unit: 2631

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (6:30-2:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Phuong Phu*

Phuong Phu  
1/10/05

**PHUONG PHU  
PRIMARY EXAMINER**

Phuong Phu  
Primary Examiner  
Art Unit 2631